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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,592

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Martin J. Edwards

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PHILIPS ELECTRONICS NORTH AMERICA CORPORATION
INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

HO, BAO QUAN T

ART UNIT

PAPER NUMBER

2609

MAIL DATE

DELIVERY MODE

08/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,592

Applicant(s)

EDWARDS ET AL.

Examiner

Bao-Quan T. Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
- 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 2, 5-7, and 9** are rejected under 35 U.S.C. 102(e) as being anticipated by Hector et al., US Patent 6,864,883 (hereafter referenced as Hector).

Regarding claim 1, Hector discloses an active matrix liquid crystal display device having in a display area an array of picture elements (25a in fig. 7) operable to produce a display image, each picture element comprising a picture element electrode (18a in fig. 7) which together with an opposing, common, electrode (18b in fig. 7) defines a liquid crystal display element, and a storage capacitor (23 in fig. 7) connected to the picture element electrode, the device including adjustment means (72 in fig. 9) for adjusting drive signals applied to the picture elements in accordance with changes in the liquid crystal capacitance wherein the adjustment means comprises an oscillator circuit (fig. 7, col. 7 lines 7-19) which is coupled to a plurality of picture elements in the array and whose frequency of oscillation provides a measure of a capacitance associated with the

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plurality of picture elements and dependent on the capacitance of their respective liquid crystal display elements.

Regarding claim 2, Hector teaches everything as applied above in claim

1. Hector also discloses wherein respective first electrodes of the storage capacitors (23 in fig. 7) of the plurality of picture elements (18 in fig. 7) are connected together (40 in fig. 7) and wherein the adjustment means is arranged to measure the capacitance of the connected first electrodes of the storage capacitors (seen in fig. 7).

Regarding claim 5, Hector teaches everything as applied above in claim

1. Hector also discloses wherein the adjustment means is arranged to measure the capacitance of the common electrode (42 in fig. 7).

Regarding claim 6, Hector teaches everything as applied above in claim

5. Hector also discloses wherein the common electrode is connected to switch means (46 in fig. 7) that is selectively operable to couple the common electrode to a source of predetermined potential (ground in fig. 7) or to the oscillator circuit (50 in fig. 7, col. 7 lines 7-19) to enable the adjustment means to perform a measuring operation.

Regarding claim 7, Hector teaches everything as applied above in claim

1. Hector also discloses wherein the oscillator circuit (fig. 7, col. 7 lines 7-19) of the adjustment means is coupled to all the picture elements in the array with the measurement provided thereby being dependent on a capacitance associated with the display elements of all the picture elements in the array.

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Regarding claim 9, Hector teaches everything as applied above in claim

1. Hector also discloses wherein an input of the oscillator circuit (fig. 7, col. 7 lines 7-19) of the adjustment means is coupled to the plurality of picture elements via a coupling circuit comprising a capacitor (44 in fig. 7).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 3 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hector.

Regarding claim 3, Hector discloses all the subject matter except for wherein the storage capacitors are connected between their respective picture element electrodes and a connection line common to the storage capacitors of the plurality of picture elements and wherein the adjustment means is arranged to measure the capacitance associated with the connection line.

However, Hector discloses the storage capacitors (23 in fig. 7) are connected to their respective picture element electrodes (18a in fig. 7) and a connection line common (40 in fig. 7) to the storage capacitors of the plurality of picture elements and wherein the adjustment means (fig. 7, col. 7 lines 7-19) is arranged to measure the capacitance associated with the connection line. One of

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ordinary skill in the art would recognize wherein the storage capacitors are connected between their respective picture element electrodes and a connection line common to the storage capacitors of the plurality of picture elements and wherein the adjustment means is arranged to measure the capacitance associated with the connection line and fig. 7 of Hector have the same function to measure the capacitance of the picture elements in order to adjust drive signals (see abstract of Hector). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use either the claimed invention circuit fig. 3 of Edwards et al. or prior art fig. 7 of Hector because those circuits are equivalent structure known in the art at the time of invention for using, to measure the capacitance of the picture elements in order to adjust drive signals in the liquid crystal display device.

Regarding claim 4, Hector teaches everything as applied above in claim

3. Hector also discloses wherein the storage capacitor connection line is connected to switch (46 in fig. 7) means that is selectively operable to couple the connection line to a source of predetermined potential (ground in fig. 7) or to the oscillator circuit (50 in fig. 7, col. 7 lines 7-19) to enable the adjustment means to perform a measuring operation.

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hector, in view of Koyama et al., US Patent 6,111,557 (hereafter referenced as Koyama).

Regarding claim 8, Hector teaches everything as applied above in claim

1. Hector also discloses that the oscillator circuit can be used in the liquid crystal

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display device (col. 7, lines 7-19) but does not specifically teach wherein the oscillator circuit of the adjustment means comprises thin film circuitry integrated on a substrate of the device which carries the picture element electrodes.

However, Koyama, starting at col. 1, lines 22-25 and col. 12, lines 54-61, discloses the oscillator circuit of the adjustment means comprises thin film circuitry integrated on a substrate of the device which carries the picture element electrodes.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to recognize that Hector could have the oscillator circuit of the adjustment means comprises thin film circuitry integrated on a substrate of the device as taught by Koyama in order to have a high-speed operation (col. 13, lines 1-7 of Koyama)

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao-Quan T. Ho whose telephone number is (571) 270-3264. The examiner can normally be reached on M-F, 7:30 am to 5:00 pm EST, alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian T. Pendleton can be reached on (571) 272-7527. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BTH
08/20/2007


BRIAN TYPONE PENDLETON
SUPERVISORY PATENT EXAMINER